all the rest of the 590 putting greens, soil and tissue levels of P and K were at levels where the probability of obtaining a bentgrass response to fertilizer P and K was essentially zero.

In your turf management program, do you routinely budget for, purchase and apply nutrients even in those instances where the chances of benefitting the turf in any way are 2% or less? I'd venture to say that you do and justify the practice on the basis that it doesn't cost that much and its good "insurance".

Let's take the "insurance" concept one step further. The golf course superintendent who deals with a demanding clientele, has the necessary resources, and wishes to remain employed, applies fungicides on a preventative basis. I have the memorable experience of annually making the rounds of regional turf seminars in the state with the likes of Dr. Gavle Worf. On more than one occasion the question was asked, "If I'm on a preventative fungicide program, how often are those fungicide applications beneficial?". In his usual measured and respectful way, Dr. Worf's response was, "If I had to guess, and mind you its only a guess, I'd say about 25% of the time". Having heard this, would you back away from a preventative fungicide program even though the suggestion is that 3 out of every 4 applications made have dubious value? No, I think you'd continue on a preventative program for "insurance" purposes.

Now, back to the biostimulants. The major problem with them is not knowing if and when they'll have beneficial effects. What would it take for researchers to establish, for example, the conditions under which product X lives up to its claim that it significantly increases bentgrass root mass and will do so in 9 out of 10 times that it is applied? First, the researcher would have to consider all of the factors that curtail bentgrass root growth. One of these factors might heat stress. Then researcher would have to consider the fact that the amount of heat stress varies depending on things such as radiation levels, soil moisture status, the duration and intensity of the stress-inducing conditions, season-to-season fluctuations in weather, and interactions with other cultural practices being employed. The picture that emerges is one of great complexity, possible multiple interactions, and a mind boggling number of scenarios in which product X may or may not mitigate the effects of heat stress and actually improve bentgrass root growth. I believe its fair to say that, given the wide array of biostimulants being marketed and the scenario portrayed above, it is highly unlikely that we'll ever arrive at the point where one can predict with 90% reliability the conditions under which the products will perform as claimed.

I'm not suggesting all is hopeless when it comes to researching the efficacy of biostimulants.

But if the research is to have predictive value, it is incumbent upon the researchers to characterize in detail the conditions under which the studies were conducted. We need to know what types and levels of stresses were operative when the products were applied. These cannot simply be the classical "spread and measure" studies. The studies will be costly and I'm not sure where the necessary financial support will come from.

I am suggesting that is unreasonable to apply to biostimulants the same efficacy criteria that we apply to the more traditional products such as fertilizers and fungicides when it comes to registration for sale in Wisconsin or in recommending use of the products by

superintendents. Fertilizers are being applied when the probability of turfgrass response is near zero and fungicides when there's possibly only a 25% chance of benefit. To demand a 90% response probability on the part of those who manufacture biostimulants seems both unreasonable and unrealistic to me.

A more reasonable approach is the "buyer beware" philosophy. Put the burden on the user to decide whether or not to purchase and apply a given product and encourage them to set up control areas that will provide evidence that the product was or was not beneficial.

Life is a continuous series of compromises. If my arguments for viewing biostimulants in a new light seems reasonable, this is a concession that elicits reciprocity on the part of the purveyors of the products. They have to be more forthright in their claims, many of which are backed by little or no field research. Inferences and assumptions need to be recognized for what they are, and there has to be acknowledgment that, depending on the circumstances, the benefits claimed may of may not be realized. A liberal dose of terms such as "indications are", "may", "might" and "sometimes" on the labels would go a long way toward presenting these products in a way that is much palatable to more researchers, professional turf consultants, and to superintendents in general.

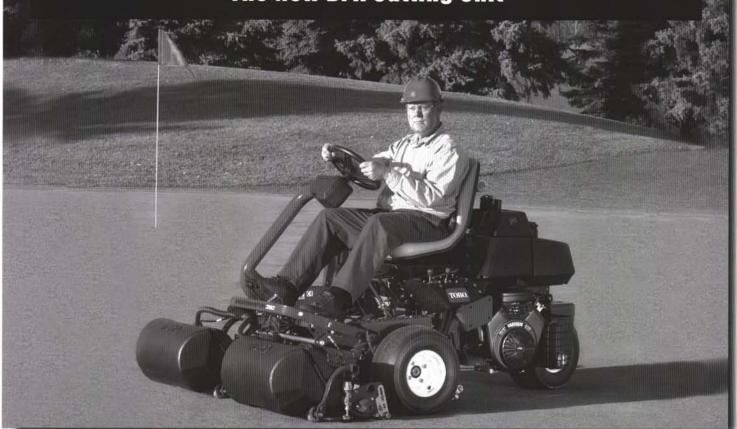
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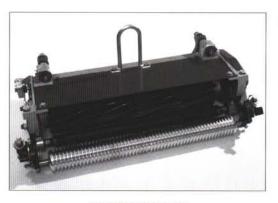
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Can One Man Make a Difference?

By Dr. Geunhwa Jung, Department of Plant Pathology, University of Wisconsin-Madison

f course, everyone is fully capable of making a positive difference with expertise and skills uniquely and perfectly given to each individual. We know that numerous people have contributed on the decision making process in many important events in the course of human history. In fact, we are living by making those kinds of decisions right now at home, workplace, and community without knowing future consequences. Just sit down at your office and look back on the path of your life. It is quite a daunting feeling at least for me to look back on some of the most difficult and unsolvable tasks that I have struggled with over the past few years. During those moments, I did not know how to handle and solve them because they seemed to be too difficult. I simply couldn't decide which way I should go. However, look at what I have done. The difficult problems were resolved in the way that I wanted and most of all, I feel the situations were handled very well. I am positive that you also have many stories like mine. Sometimes we are not quite sure of whether we are making right decisions at the time, but I am very confident that whatever you decided is going to be all right.

One day I was catching my breath after many hours in my office and thinking of the future of the TDL (Turfgrass Diagnosis Lab). I was shocked by the number of people who have and are currently playing important roles in shaping the TDL. Drs. Doug Maxwell, Julie Meyer and Steve Millett were pioneers of breaking the ground for establishing the lab. Those people invested countless hours in discussions and suggestions for setting up and running the lab. Of course, we can't ever forget Dr. Gayle Worf's long time dedication and contribution for the Wisconsin turfgrass industries. In addition, several key superintendents and members of Wisconsin associations such as WTA, WSPA, WGCSA, and NGLGCSA were actively and unselfishly involved in the whole processes.

The history of the lab did not stay still. The lab has continued to evolve up until now. Six years ago Mr. Jeff Gregos as a TDL diagnostician and a field manager (Dept. of Plant Pathology) was hired and has made a huge impact on the process of the TDL's evolution. Indeed he made positive changes. Since Jeff has an ardent and passionate interest in running research experiments in field, he is now responsible exclusively for all of field related research plots in Plant Pathology and Horticulture at the Noer and on-site research plots. I sincerely appreciate his dedication and efforts

that he poured out to the lab during the past 6 years. Without his role, the lab couldn't be as present. It is interesting that the name of the lab also changed. It was called "Turfgrass Disease Diagnosis Lab" which strictly handled diseased samples only. With the exception of soil samples, the lab handles all turf problems (diseases, insects, and weeds).

Is this the end of the story? Not at all! As long as Wisconsin turf industries express an interest, the lab will continue to improve regardless of the current situation. Keep in mind that the University's primary mission statement is "To serve you better." What is the next step? Last winter I made an important decision to hire a person with 100% appointment to diagnose diseased samples (from golf courses, sod farms and homeowners). The decision was made through numerous discussions with departmental faculties and industry members. As a result, Mr. Steve Abler holding a Masters degree who was trained under Dr. Houston Couch's supervision at the Virginia Polytechnic was selected out of several candidates. Can Steve make a difference? Yes, he will definitely be another racer in the course of a long marathon in terms of the TDL history.





From Somewhere Outside Baghdad

By Monroe S. Miller, Golf Course Superintendent, Blackhawk Country Club

Dear Noernetters.

Hey guys, greetings from the desert and dust storms of Iraq. I finally got access to a laptop and I can respond to the messages that have piled up until now. Those who sent mail and packages will hear from me too, as soon as we secure our AO and have some resemblance of routine. There is so much chaos and confusion on the ground right now that I cannot promise how soon that will be.

We got our first mail call just a few days ago, so all the troops in my company are savoring every word from home. Me, too.

We've been in Iraq for something over a month now. Our Army Reserve MP Company came over together as one unit on an Air Force transport. We landed in Kuwait and were assigned equipment once we got there. We arrived with our personal gear and weapons (M-16 rifles and 9 mm pistols) but vehicles and light armor apparently had been stored here for a while before we arrived. Almost immediately we went to work. Military police are usually the first into an area of operations and the last to leave. We started out with a few days of local military traffic control, discipline, law and order at the staging and replacement area, and we provided perimeter security to keep locals out of these places.

Shortly after that we moved north with the Third Infantry Division and all the support units with them. In the Army we hear about how tough the Fourth Mech is, but after seeing the 3rd ID in action, I can't believe that they aren't the best.

You would have to see it to believe it. The amount of machinery and material, the huge number of GIs, and the organization defies description. I've been in the reserves over ten years, and to this day I am overwhelmed with the Army's organization and ability to gear up for an operation like this in such a short period of time. Soldiers like me are the ones in shock and awe of our effort.

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I wouldn't want to live in this part of the world. It is desolate mostly, although the sand would make a good golf course if you also had lots of water and fertilizer!

Our personal hygiene circumstances aren't very good, but it has never been any different in a war. It has been about 30 days since we had a shower and clean uniforms. At least we all stink.

Maybe you have heard about MREs - meals ready to eat. For you older veterans, they are the replacements for C and K rations. MREs are actually pretty good although nobody's getting fat on them. Everybody in my company could use a cold Wisconsin beer - a frosted mug of New Glarus Spotted Cow would really hit the spot!

The airport in Baghdad has been taken over by our forces and we are going to provide security, or at least help with those responsibilities. That is what we were well trained to do. It is tough to separate the citizens from the enemy at times. The Iraqi soldiers often shuck their uniforms and melt into neighborhoods. My dad was an MP in the Vietnam War -716th MP Battalion in Saigon during the Tet Offensive in 1968. So many times I have heard him tell about door-to-door and room-to-room fighting to roust the VC and NVA from the city. There is a chance we may face the same job here.

I can't say enough about the professionalism of all the U.S. soldiers. We are so well trained, so disciplined and so motivated that I am humbled to be part of this great U.S. military.

But I miss home so much. I have my pictures of Caroline and the kids to keep me going, but the lonesomeness at times is overwhelming. It is actually a blessing to work 20 hours a day; like the Army Rangers cadence run goes - all day, all night. We are so exhausted when we do get a chance for shut-eye that it comes easily.

And I miss my golf course. There was snow on the ground when I shipped out, and now the aerification job is done. You should all know that the generous and wonderful golf club that employs me has continued my salary during my absence. Talk about supporting our soldiers - there it is, folks.

And to all of you who have pitched in with machines and manpower to help aerify - deepest thanks from me and from our golf course staff. I will thank each of you personally when I return, God willing.

I predict our U.S. forces will make short work of the vaunted Iraqi military. We dream of how happy these people will be when they are free. It inspires us to keep going.

I have to close now. I recognize the peculiar sound of the 50 cal. on one of our Humvees. It could be trouble.

Thanks for thinking about me and my family and my golf course. Hopefully I'll be home in time to see you at the WTA fundraiser at the Bull in October:

God bless the U.S.A.

Love to all, John H. Tallman Golf Course Superintendent White Tail Ridge Golf Club, and Captain, U.S. Army Reserves Commanding Officer, Company C 225th Military Police Battalion Baghdad, Iraq 💸



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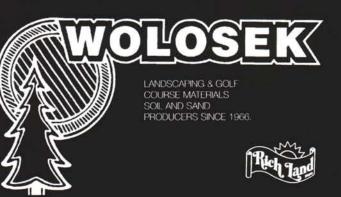


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No More Am I Taking Chances

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

Tow many more chances am I going to get! I'm talking ■ about having close calls with lightning. I've really been lucky not to be hurt by lightning considering where I've been and what I do. It's likely the same as what you do - working outdoors in Mother Nature's glory. Sometimes exposure to lightning has been out of my control. Such was the case several years ago, while hiking in the Rocky Mountains and miles away from any safe shelter. A severe thunderstorm blew up out of nowhere around my family. Luckily no one was hurt. We later learned there were things we could have done better even in that desperate situation to protect ourselves. I've also realized that at a few other times I've put myself and others in great danger when I knew better and could have done things differently. What I should have done is suspend a recreation or work activity much earlier when I knew a storm was coming.

As I get older and a little wiser, I'm not going to take as many chances. I love life too much. And how terrible would it be if someone on my crew got hurt because I didn't educate them properly on lightning safety or set a poor example by being cavalier around such a danger. I and probably you have escaped being hurt by lightning so far. Educating ourselves and our staff and clients better about lightning will hopefully save more lives in the future. Having a lightning plan in place will make a difference later, but you must take the effort to devise a plan now.

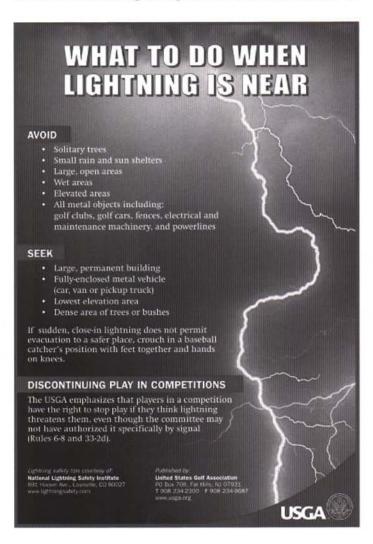
You and I work and recreate in the fastest rising segment of lightning injury occurrences in America. That segment is the area of outdoor recreation like golf and field sports, along with other outdoor activities like swimming, biking, hiking, camping, boating, etc. Farming used to represent the highest risk. Many little tractors out on open flat fields exposed lots of people to danger. Now days there are fewer people working in agriculture. And today's farmers are likely in larger, metal-surrounded, enclosed, and thus lightning-safe vehicles. Compare that to us who work in great numbers in open areas and lightning-unsafe vehicles (open utility carts and maintenance equipment).

The actual risk of being killed by lightning is relatively small, but that's not the only risk. On average about 100 deaths per year in America are attributed to lightning strikes. You have a greater chance of winning your state lottery. But death is not the only concern. Many more are struck by lightning but survive. Those people report any number of long term debilitating

symptoms. Most of these lightning injuries and deaths could have been avoided by being educated about lightning safety.

Lightning education can even help you if caught by surprise out in nature like I was in the Rocky Mountains. That day in the Rockies we climbed under a rock overhang to get out of the rain which I later learned was one of the worst places to be during a thunderstorm. Lightning could have likely hit higher up on the mountain and followed along the wet rocks right into our shelter.

Small shelters in general, whether they are on a golf course, athletic facility, or in the backyard are one of the worst places to be **even if they have lightning rods attached**. Lightning can hit far away and travel



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into them. What we should have done and what you should do if caught out in a desperate situation is this: Search out a low area, away from anything tall or metal like trees or fences, and position yourself at least 15 feet away from each other. Then crouch low with your feet together and protect your hearing by putting hands over your ears.

Getting caught by surprise out in nature is one thing. Your workplace and home are much easier environments to set up a safety plan. You really should implement one before this summer. There are many tips and safety plans that you can learn by doing a lightning safety search on the internet. Two good websites with scads of information on lightning are www.lightningsafety.com www.lightningsafety.noaa.gov. I found many important guidelines and rules there to include in my safety plan. Here is what I learned:

- 1. Designate a responsible person to monitor weather conditions. An inexpensive portable weather radio will provide regular weather condition updates.
- 2. An emergency procedure should include: SUSPEND ACTIVITIES — EVACUATE PEOPLE — MONITOR CONDITIONS — RESUME ACTIVITIES. Identify safe and unsafe locations beforehand.
- 3. People who have been struck by lightning do not carry an electric charge and are safe to handle. Apply first aid immediately, if you are qualified to do so. Get emergency help promptly.

SAFE AREAS INCLUDE:

- Fully enclosed metal vehicles with windows up.
- · Substantial and permanent buildings.

UNSAFE AREAS INCLUDE:

- Small structures including huts and rain shelters.
- Nearby metallic objects like fences, gates, instrumentation and electrical equipment, wires, and power poles.
- Also AVOID trees, AVOID water, AVOID open fields, AVOID high ground, AVOID using hardwired telephones and headsets.

A lightning safety plan that has been adopted by such prominent associations as the NCAA (National Collegiate Athletic Association), NATA (National Athletic Trainers Association) and the AMS (American Meteorological Society) uses the 30/30 rule. This rule states that you, your crew, and clients should go to a safe shelter if the time between lightning and thunder is 30 seconds or less. Then stay there 30 minutes after the last rumble of thunder. Or to think of it in simpler terms — The National Lightning Safety Institute (one of the above websites) puts it this way, "If you can see it (lightning), flee it; if you can hear it (thunder), clear it."

I've witnessed way too many situations where golfers and outdoor athletic events placed people in very grave situations. I hope you can bring some of this education to the powers-to-be at one of your next board and/or staff meetings. Advance planning is the single most important means to achieve lightning safety.

I realize it's very hard to delay an important construction project, postpone tee times, or stop an athletic event. But just remember that lightning can happen in half a second. In that instant, the lightning flash superheats the surrounding air to a temperature five times hotter than that on the surface of the sun. We've all seen a tree that has exploded from a lightning strike. The moisture in the sapwood turns to steam resulting in the explosion. You could read about what happens to humans hit by lightning at one of the above websites. It's similar to trees. And I'm not taking those chances anymore.



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Thanks for the Memories!

By Monroe S. Miller, Golf Course Superintendent, Blackhawk Country Club

Since I have never bought a lottery ticket (and have no plans to start), I will never win the lottery. Actually, I don't gamble (Ho Chunk, Las Vegas, etc.) either. So having my name drawn at the spring business meeting for the opportunity to attend the Masters Tournament was the ultimate jackpot for me. Winning was amplified by the sad reality that this may be the last year for the Wisconsin State Golf Association to hold its tickets for the Masters. Tourney officials want them back after all these decades. There is some behind-the-scenes work going on to return them, but it doesn't look good at this point.

The WGCSA charters a jet for the trip to Augusta and the plane has more seats than the WSGA has tickets to the Masters, so they very kindly sell six plane seats to the WGCSA and six to the WPGA. We, in turn, distribute them through a drawing. Winners from the previous year cannot repeat, so the process is one that simply cannot be fairer. The key here is that the Masters Tournament honors the Class A cards of the GCSAA and the PGA, and give us complimentary passes. That, too, is very generous.

Airport and airline security required an unusually early start for the Masters trip on Friday, even for golf course superintendents. We arrived at the Midwest Express ticket counter at Mitchell Field in Milwaukee at 4:30 A.M. After processing and some waiting, the plane departed promptly at 6:00 A.M. CDT. The six WGCSA members were seated across the cabin - six seats over the wing exit. You couldn't find six guys for better company - Scott Schaller, Wayne Otto, Dan Shaw, Randy Dupont and Gene Van Liere. Bob Vavrek also attended, but on a "regular" ticket.

The trip down included an excellent breakfast meal and after ample time for visiting, we arrived in Augusta at 9:30 A.M. EDT. We were at the "will call" ticket window near the main entrance of the Augusta National Golf Club by 10:15 A.M.

The Masters tournament is famous for efficiency and organization, and we experienced that getting through the gate and onto the grounds. There were no hitches. We stayed together for about 50 yards; Otto had to peel off and use the latrine while the rest of us went into the pro shop to fill out our request lists from home. Scott had a great plan - make the purchases first and then to check the bags at the check station near the 5th green. The buses were parked in that vicinity. I lost track of them in the pro shop, presum-



The WGCSA Masters Tournament Class of 2003 — Miller, Schaller, Van Liere, Shaw, DuPont and Otto.



Dan Shaw and Dewey Laak, tired after a busy day at the Masters Golf Tournament.

ably because my shopping list was longer.

That's when the fun began for them. Since we were in attendance by virtue of our GCSAA membership cards, we weren't allowed to leave unless we didn't want to return. The guys arrived at the check stand only to find it full. So, after extended conversation with gate guards and assurances that they would be allowed back in, they left to stash their purchases in our charter bus. When they returned to the gate, they were denied entry! It was a close call, but finally a security person allowed them to return to the course. By the time I made it to the check stand, room was available. Scott aged a full year by the close call!

Play had been suspended Thursday because of four inches of rain. I haven't seen so much mud since my farm childhood. There was no relief from it anywhere. Playing conditions for players, if they kept the ball mostly down the middle, were excellent. But spectators were slipping in the ankle deep mud most of the day. I tried tip toeing carefully at first, but after ten feet it was clearly hopeless. So for the remainder of the day, like everyone else, I